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## iChip CO2128 with EBI Flash and Siemens MC39i GSM Modem

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### Revision History

Version	Date	Description
1.0	May 2008	Initial version
2.0	September 2008	Changed from 1Mb Flash to 2Mb Flash

### Introduction

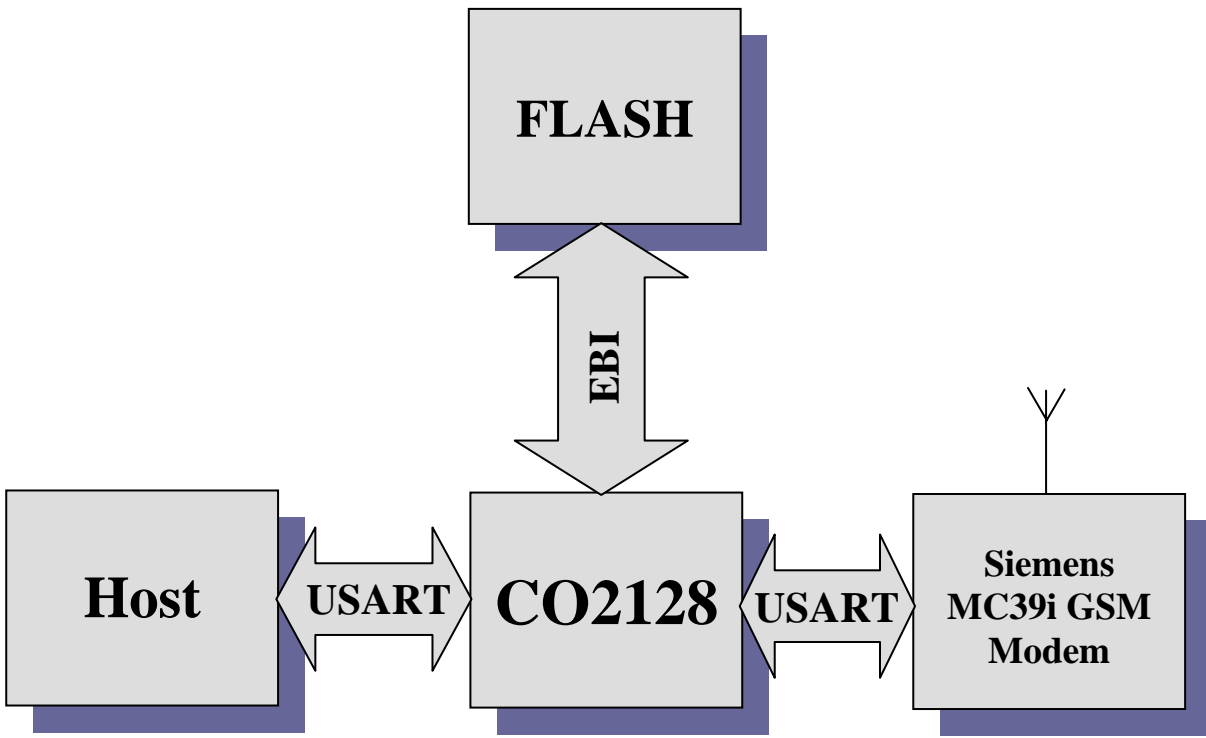
This Reference Design demonstrates the iChip™ CO2128 IP Controller™ connected to a host processor via USART, to a flash memory chip via EBI interface, and to a Siemens MC39i GSM modem via USART.

Connect One's AT+i™ commands are accepted at baud rates of up to 3Mbps.

### Features

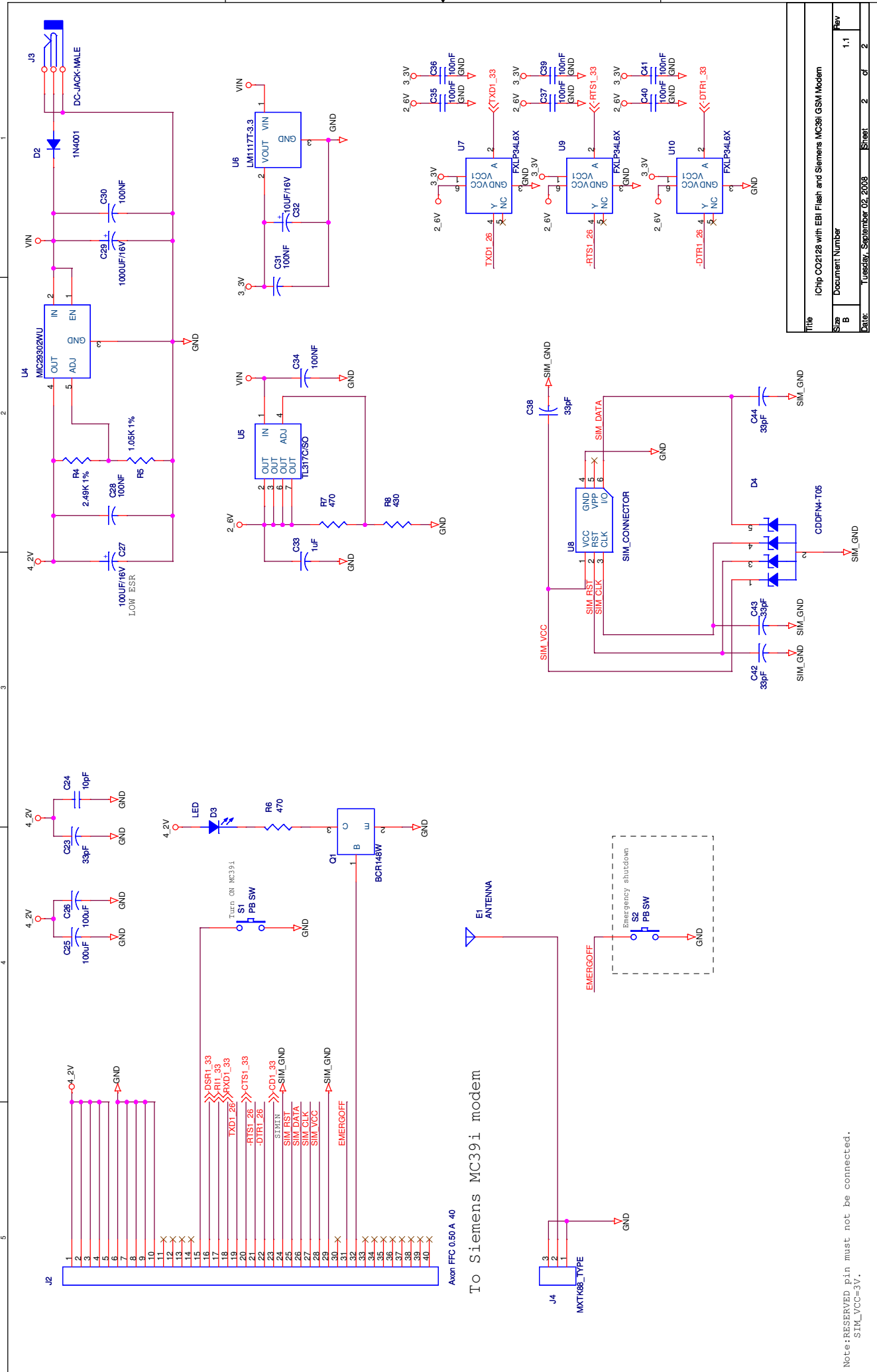
- Supports serial host interface speeds of up to 3Mbps (250K, 1M, 1.5M, 3M)
- SSL3/TLS1 security implemented in hardware provides better performance
- Data and Internet connection through the Siemens MC39i GSM modem
- Operates at the industrial temperature range
- RoHS-compliant

## Block Diagram



## Schematics





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Note: RESERVED pin must not be connected.  
SIM\_VCC=3V.

## Bill of Materials

<i>Item</i>	<i>Qty</i>	<i>Reference</i>	<i>Part</i>	<i>Manufacturer</i>
1	2	C1, C8	22pF	Any
2	23	C2, C3, C4, C5, C6, C7, C9, C12, C13, C14, C15, C17, C22, C28, C30, C31, C34, C35, C36, C37, C39, C40, C41	100nF	Any
3	5	C10, C18, C19, C20, C21	470nF	Any
4	1	C11	2.2μF/16V	Any
5	2	C16, C32	10μF/16V	Any
6	5	C23, C38, C42, C43, C44	33pF	Any
7	1	C24	10pF	Any
8	2	C25, C26	100μF	Any
9	1	C27	100μF/16V	Any
10	1	C29	1000μF/16V	Any
11	1	C33	1μF	Any
12	1	D1	1N4148	Any
13	1	D2	1N4001	Any
14	1	D3	LED	Any
15	1	D4	CDDFN4-T05	Bourns
16	1	E1	Antenna	50Ω
17	1	J1	DB9 FEM	Any
18	1	J2	FFC 0.50 A 40	Axon
19	1	J3	DC-JACK-MALE	Any
20	1	J4	MXTK88_TYPE	MuRata
21	1	Q1	BCR148W	Infineon
22	1	R1	10K	Any
23	1	R2	3K	Any
24	1	R3	100K	Any
25	1	R4	2.49K 1%	Any
26	1	R5	1.05K 1%	Any
27	2	R6, R7	470Ω	Any
28	1	R8	430Ω	Any
29	2	S1,S2	PB SW	Any
30	1	U1	M29W160EB-70N6F	Numonyx
31	1	U2	CO2128/48LI-3	Connect One
32	1	U3	SP3243EEA-L	Sipex
33	1	U4	MIC29302WU	Micrell

34	1	U5	TL317C/SO	Texas Instruments
35	1	U6	LM1117T-3.3	National Semiconductor
36	3	U7, U9, U10	FXLP34L6X	Fairchild
37	1	U8	SIM_CONNECTOR	Any
38	1	Y1	12MHz	Any 50 ppm